BEFORE THE PUBLIC UTILITIES COMMISSION OF NEVADA

In re filing of NEVADA BELL'S Unbundled Network Element (UNE) Cost Study.	)))	Docket No. 98-6004

At a general session of the Public Utilities Commission of Nevada, held at its offices on January 29, 1999.

PRESENT: Chairman Judy M. Sheldrew
Commissioner Donald L. Soderberg
Commission Secretary Jeanne Reynolds

ORDER

The Public Utilities Commission of Nevada ("Commission") makes the following findings of fact and conclusions of law:

INTRODUCTION[1]

Procedural History:

1. On June 1, 1998, Nevada Bell filed its UNE cost study, designated as Docket No. 98-6004, with the Public Utilities Commission of Nevada ("Commission"). This filing was made pursuant to Chapters 703 and 704 of the Nevada Revised Statutes and the Nevada Administrative Code ("NAC") and the Commission's Amended Procedural Order of April 30, 1998, in Docket No. 96-9035. Nevada Bell believed that portions of the cost study contain proprietary information and requested that they be treated as proprietary pursuant to NAC 703.527 et seq.

[1] Due to the technical complexity of the economic cost models we investigate in this proceeding, the sheer volume of qualitative and quantitative assumptions, inputs, and values we analyze and address, and the scope and breadth of our decision, each separately numbered paragraph of our Order constitutes a Commission finding. We augment those findings by a series of general findings at the end of this Order.

2. On June 8, 1998, the Commission issued a Notice of Filing and Notice of Prehearing Conference. On June 19, 1998, the Commission held a Prehearing Conference in this matter.

3. On June 17, 1998, AT&T Communications of Nevada, Inc. ("AT&T") filed a Petition for Leave to Intervene. On June 18, 1998, the Attorney General's Bureau of Consumer Protection - Utility Consumers Advocate ("UCA") filed a Notice of Intent to Intervene with the Commission. On June 19, 1998, the Central Telephone Company - Nevada d/b/a Sprint of Nevada ("Sprint") orally submitted a Petition for Leave to Intervene. On July 13, 1998, the Commission granted AT&T and Sprint leave to intervene.

4. On July 1, 1998, the Regulatory Operations Staff ("Staff") of the Commission submitted a Motion for an order from the Commission directing Nevada Bell to file a cost of capital study for review and analysis and eventual use in setting the appropriate costs and/or prices for unbundled network elements ("UNEs"). On July 8, 1998, the UCA filed a Response in support of Staff's Motion. On July 9, 1998, Nevada Bell and Sprint filed responses in opposition to Staff's Motion. On July 22, 1998, the Commission issued an Order Denying Regulatory Operations Staff's Motion.

5. On July 6, 1998, the Commission issued a Notice of Hearing in this matter for August 10, 1998. The Notice also established a procedural schedule whereby Nevada Bell's rebuttal testimony was to be filed with the Commission no later than July 15, 1998.

6. On July 8, 1998, Nevada Bell filed a Motion for Extension of Time requesting an extension of the July 15, 1998, filing date to July 17, 1998. On July 13, 1998, the Commission issued an Order Granting Motion for Extension of Time.

7. On August 10, 1998, the Commission commenced a hearing in this matter. The hearing lasted eight days covering 1,228 pages of transcript and 36 exhibits. Portions of various witnesses' *prepared* testimony were stricken in response to motions to strike as reflected throughout the transcript.

8. Staff's motion for order directing Nevada Bell to file prices was denied. (Tr. at 4-31.)

9. Nevada Bell requested confidential treatment for various portions of its filing. Accordingly, the Commission conducted closed sessions for part of this proceeding. Nevada Bell set forth as its basis for nondisclosure of this material (at Exhibit 10): (a) that it has legal or contractual obligations to protect information which certain entities consider confidential; (b) that disclosure of cost study information to existing and potential competitors would diminish or destroy the value of Nevada Bell's business; (c) that Nevada Bell may derive actual or potential economic value if certain information is not generally known to the public; and (d) existing or potential competitors could derive economic value from its disclosure or use, to the detriment of Nevada Bell's market base.

10. Pursuant to NRS 703.190, the Commission can only prohibit disclosure of information if it determines that the information would otherwise be entitled to protection as a trade secret or confidential commercial information pursuant to NRS 49.325 or NRS 600A.070 or Rule 26(c)(7) of the Nevada Rules of Civil Procedure. The Commission complied with the requirements of NRS 703.196 by examining this information in closed hearings. No further explanation of why any of the information filed under seal should be afforded confidential treatment was provided in the closed hearings. The testimony elicited during the closed hearings

did not actually reveal any information for which nondisclosure was requested. Accordingly, the transcripts of the closed hearings should be made part of the open record. As to the prepared testimony and attachments themselves, upon consideration of the arguments advanced by Nevada Bell and the testimony elicited during the closed hearings, the Commission finds that Nevada Bell has not met its burden in this regard and that its request for confidential treatment should be denied. The Commission notes that the inputs to the HAI model and outputs from the model were to be subject to public scrutiny. Cost information of a regulated entity should not, generally speaking, be entitled to confidential treatment; such information should be open and available to the public. The information for which Nevada Bell has requested confidential treatment consists of forward-looking costs. Nevada Bell set forth as one of its reasons for confidential treatment that it is under certain obligations to protect information. The Commission is under no similar obligation. In fact, the Commission must disclose all information unless it is convinced that the information constitutes a trade secret or commercially sensitive information. The other arguments raised by Nevada Bell would serve to defeat the overall purpose of using the HAI model.

Statutory History:

11. On February 8, 1996, the President of the United States signed into law the Telecommunications Act of 1996 (Act). This law promotes development of competition in the telecommunications industry, particularly in the provision of local exchange services. The Act requires all states to allow competition in previously protected local exchange markets. As part of this process, each state regulatory commission must develop pro-competition rules in accordance with the guidelines that are established by the Federal Communications Commission

(FCC).

12. Pursuant to Section 252(b)(1) of the Act, if the parties to an interconnection arrangement are unable to reach agreement on the terms and conditions for interconnection, a requesting carrier may petition its state regulatory commission to arbitrate any unresolved issues by voluntary negotiation. A number of companies were unable to reach complete agreement with Nevada Bell, and exercised their right to arbitration, pursuant to Section 252(b)(1) of the Act.

13. On August 1, 1996, the Federal Communications Commission (FCC) adopted rules to implement the local competition provisions of the Act ("FCC Interconnection Order").[2] As the FCC notes in its Order at paragraph one:

> The Telecommunications Act of 1996 fundamentally changes telecommunications regulation. * * * In the new regulatory regime, we and the states remove the outdated barriers that protect monopolies from competition and affirmatively promote efficient competition using tools forged by Congress.

And, further, at paragraph three:

> [W]e are taking the steps that will achieve the pro-competitive, deregulatory goals of the 1996 Act. The Act directs us and our state colleagues to remove not only statutory and regulatory impediments to competition, but economic and operational impediments as well.

In this proceeding, we continue the task of addressing economic and operational impediments to competition.

DISCUSSION

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[2] *In the Matter of the Implementation of the Local Competition Rules of the Telecommunications Act of 1996*, CC Docket 96-98, First Report and Order (August 8, 1996), Appendix B - Final Rules.

14. In this Order, we use many technical terms, from both the cost modeling discipline and the telecommunications industry generally, and provide at *Appendix B – Definitions* to this Order a glossary of terms and their meaning.

15. This proceeding is conducted essentially under our statutory authority to set prices for interconnection, and unbundled network elements. The permanent pricing decisions which result from this proceeding must comport with the applicable cost and pricing standards set forth in the Act.

16. Just and reasonable rates for interconnection[3] and unbundled network elements are to be based upon the cost of providing interconnection or the network element. The cost is to be determined without reference to a rate-of-return or other rate-based proceeding. The prices established may include a reasonable profit. 47 U.S.C. § 252(d)(1)(A).

17. The FCC's Interconnection Order provides guidance on many costing and pricing issues, but its recommendations are largely non-binding. *Iowa Utilities Board v. FCC*, 120 F.3d 753 (8th Cir. 1997). The FCC has provided valuable guidance for the costing of unbundled network elements. In its Order, the FCC stated that total element long-run incremental cost (TELRIC) should be used to estimate the cost of unbundled network elements. The analysis is explained in paragraphs 674-740 of the FCC's Order. All parties in this case advocate the TELRIC methodology as the appropriate costing analysis.

18. The TELRIC methodology 1) assumes the use of best available technology within

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[3] The term 'network element' means a facility or equipment used in the provision of a telecommunications service. Such term also includes features, functions, and capabilities that are provided by means of such facility or equipment, including subscriber numbers, databases, signaling systems, and information sufficient for billing and collection, or used in the transmission, routing, or other provision of a telecommunications service. 47 U.S.C. §153.

the limits of existing network facilities; 2) makes realistic assumptions about capacity utilization rates, spare capacity, field conditions, and fill factors; 3) employs a forward-looking, risk-adjusted cost of capital; 4) uses economic depreciation rates for capital recovery; and 5) properly attributes indirect expenses to network elements on a cost-causative basis. See, for example, FCC Interconnection Order at 12.

19. By following these cost principles, a cost floor that reflects the prospective economic costs incurred by an efficient supplier is established for each network element. In this proceeding, the cost will be used to set the price for the network element. Historically, the justness and reasonableness of regulated rates has been judged, in part, with reference to the cost-of-service. Martin G. Glaeser, Public Utilities in American Capitalism (New York: Macmillan Company, 1957), p.196.

20. Economic efficiency dictates that the cost floor be established in a manner which maximizes society's welfare and is consistent with the Act's requirement that the rates be just and reasonable. We will set interim prices for unbundled network elements in this proceeding. Setting economically efficient prices will provide the right signal to competitive local exchange carriers (CLECs). Most importantly, it will help them in making their decision either to construct their own network or to lease facilities from the incumbent local exchange carrier (ILEC). If the price of an unbundled network element is set too high, a CLEC may build facilities when society's scarce resources would be better employed if it had rented facilities from the ILEC. On the other hand, if the price of unbundled network elements is set too low, a CLEC may rent facilities from an ILEC rather than build. This would reduce society's well-being, because the least cost supplier is not the one who is building and maintaining the network

facilities. In order to maximize society's welfare, resources should be directed toward the supplier that can construct a network at the lowest cost to society.

21. In reaching its conclusions in this Order, the Commission was unable to rely on the information presented by Nevada Bell. Nevada Bell did not offer any pricing proposals. Nevada Bell's own witness admitted that she was not offering any proposals on how costs could be used to arrive at any prices or pricing methodologies. (Tr. at 79, 96, 105, 126.) As discussed later, AT&T manipulated certain data. The Commission must therefore rely heavily on Staff's presentation for its decision.

COST METHODOLOGY: PRINCIPLES

22. The objective of this proceeding is to establish prices for unbundled network elements based on the pricing and costing procedures adopted by the Commission.

23. We previously have observed the importance of establishing appropriate costing and pricing levels. For consumers to have competitive choice, the ILECs' networks must be opened up at terms that are fair to both ILECs and new entrants. A key part of that process is determining the costs and prices for services.

24. An analytical model is a simplified representation of some aspect of the real world. Analysts use models to organize the complexity of the real world into some orderly form. Models are, by definition, simplifications or abstractions which omit some information. A model can be a very powerful analytical tool. It can act as a microscope or a telescope which may enable the analyst to focus in on the key aspects of a situation and thereby solve problems that, in the absence of a model, would be hopelessly complex.

25. The analytical model on the record in this case is a computer model designed or

used to estimate the cost of constructing and operating the public-switched telephone network. That network is exceedingly involved and complex. It encompasses millions of access lines and hundreds of switches, interoffice transmission facilities, signaling links, and other elements. Cost models are used to sort through the complexity of that network. They help to organize it into similar elements that have similar costs, and to estimate the cost of those elements. Cost models lend themselves to two basic purposes. First, they can be used to measure the cost that would be incurred should it be necessary to reconstruct the network under certain specified conditions, such as the "scorched node" assumption. Second, they can be used to disaggregate the otherwise undifferentiated costs of the network into various element costs, so that the price of a loop can be separated from the price of a switch, and the cost of a 10,000-foot loop in an exchange of a certain size can be separated from the cost of a 10,000-foot loop in an exchange of different size. In other words, one might use a model to estimate what it would cost to build a portion of the network or to rebuild the entire network.

26. The parties basically agree that the cost levels established should be based upon open, reliable, and economically sound cost models and cost inputs. There is also basic agreement that costing should be performed in sufficient detail so that the resulting prices would lead to economically rational entry decisions by competitors, as well as efficient utilization of the incumbent local exchange company's network. Such a policy would ensure that prices are set neither too high nor too low, which would best serve the public interest. We note the parties concur regarding the criteria for this costing exercise, but also we note that there is disagreement among the parties over the degree to which the filed cost studies satisfy these criteria.

27. We believe that an open model is in the public interest in that it provides all

parties with an opportunity to fully explore the advantages and the limitations of the cost model. Furthermore, we believe that models should be open in order for the public to have the opportunity to evaluate the information which is used to set rates.

28. In judging the soundness of the cost inputs, we believe that the inputs must be realistic, accurate estimates of all of the costs a provider would incur if it built out a new network using the least cost, forward-looking technology.

29. A forward-looking cost model does not measure the embedded cost-of-service. The model should estimate the economic or prospective costs of providing services or elements. FCC Interconnection Order at ¶¶ 704-707.

30. Forward-looking cost measurements require capturing the future costs of network facilities. The use of current wire center locations, along with the most efficient technology available to determine forward-looking economic costs, is the approach that most reasonably balances the interests of ILECs, CLECs, and consumers. ILECs need prices that will recover their forward-looking economic costs. CLECs need to be provided with the opportunity to compete on an equitable basis with the ILEC. Consumers benefit most when there is facility-based competition.

31. Based upon the evidence presented in this case, we conclude that the HAI model adopted for use in this proceeding establishes a reasonable range of forward-looking costs that can be used for prices.

32. We concur with the parties that the inputs to the cost model need to be validated.

OPERATIONAL SUPPORT SYSTEMS COSTS

33. The Act requires ILECs to modify their networks so that CLECs may obtain such

items as unbundled network elements and wholesale services through operational support systems (OSS). ILECs claim that the Act has compelled them to pay for unplanned network upgrades. The term "transition costs or start-up costs" is used to characterize any expenditures that ILECs make to their networks in order to comply with the statutory requirements of the Act.

34. In this Order, we do not rule on issues related to the recovery of transition costs. Instead, we have reserved our findings on certain topics until this matter is more fully explored. Nevertheless, we do find certain areas in which ILECS are entitled to compensation for their transition costs.

35. Staff's witness Ms. Diamukes recommended that the Commission reject the OSS study proffered by Nevada Bell because it is not specific to Nevada. (Exhibit 27.) The Commission agrees that Nevada Bell's study should be rejected and that Nevada Bell should be directed to file a new OSS cost study to incorporate Nevada specific inputs and to reflect prices for both fully automated and manual OSS.

COST OF THE LOOP

A. Outside Plant Placement Costs and Structure Sharing

36. Much of the testimony in this case focused on the cost of providing a loop. Parties disagreed about such issues as the appropriate level of inputs and network design. We begin our evaluation of loop costs with an analysis of the testimony on outside plant placement costs and structure sharing.

37. Placement costs are the costs to install outside plant facilities. The cost of placing facilities is affected by the extent to which these costs are shared with other utilities. For example, if electric, cable television, and telephone cables are placed in the same trench, the cost

of opening up the ground would be shared by the different utilities. This sharing would reduce the cost of placing telephone cables.

38. AT&T's placement costs inputs were developed by a team of engineers along with information collected from outside plant contractors. Nevada Bell developed company specific input values. Staff incorporated the results of the Gabel Kennedy Study in its inputs.

39. AT&T provided a number of outboard calculations in this proceeding. However, little weight was granted those calculations since no support was offered or filed with the Commission even after a request was made by the Commission for AT&T to file the details of the calculations and support documentation.

40. The Commission adopts Staff's proposed inputs. We find that the values are consistent with Staff's recommended values presented to the Commission in Docket Nos. 97-5018 and 96-9035 in which we adopted inputs. We have had no evidence presented to give us reason to change from our previous position.

41. The Commission believes that the method used by AT&T to collect data from vendors was flawed.

B. Fill Rates

42. The fill rate is the actual usage of the network relative to its total capacity. Fill is used to calculate per unit costs.

43. The FCC has stated that the calculation of the total element long-run incremental unit costs should be based upon reasonably accurate fill factors. According to the FCC, "the per-unit costs associated with a particular element must be derived by dividing the total cost associated with the element by a reasonable projection of the actual total usage of the element."

FCC Interconnection Order at ¶682.

44. We reaffirm our adoption of the HAI default fill rates.

C. Four-Wire Loop

45. The parties also disagree about the additional cost associated with providing a four-wire loop. An ordinary loop requires the use of only two wires, or one pair of cables.

46. AT&T has assumed that the investment for a two-pair cable is 60 percent greater for a four-pair cable.

47. This assumption is inconsistent with the argument that the incremental cost of providing an additional pair of wires to a subscriber is lower since a significant portion of the cost of the loop is associated with labor costs that are independent of the size of the cable.

48. The HAI model does not report the difference in the cost of providing a two-wire versus a four-wire loop. AT&T failed to show adequate support for its multiplier.

49. Based upon the evidence of record, we find that the cost of a four-wire loop may be greater than a two-wire loop. However, no support was provided to determine the additional cost.

50. We do not adopt any additional cost for providing a four-wire loop. However, any interested party remains free to petition the Commission to implement pricing to reflect additional costs.

D. Cable Size/Lengths and Fiber/Copper Breakpoints

51. One of the inputs to the loop model is the distance at which fiber or copper cable is used in the network. The Hatfield Model assumes that on a forward-looking basis, the crossover point should be at 9,000 feet from the central office and maximum copper in the loop

of 18,000 feet.

52. In the HAI model, the selection between these two technologies is based upon the total length of feeder cable from the wire center to the serving-area interface.

53. The Commission reaffirms its adoption of HAI's default inputs. These values were presented to the Commission in Docket Nos. 97-5018 and 96-9035 in which we adopted inputs. We have had no evidence presented to give us reason to change from our previous position.

E. Capital Factors; Cost of Capital; and Depreciation

54. The investments identified by the model are converted to a monthly cash-flow requirement through the application of annual charge factors. Depreciation and the cost of capital are two components of the annual charge factors.

55. We adopted a weighted cost-of-capital input of 11.25 percent in a previous proceeding and will apply this rate in this proceeding. This is the rate also authorized by the FCC.

56. Under the pricing standards set forth in Section 252(d)(1) of the Act, the rates charged for interconnection and unbundled network elements must be "based on the cost (determined without reference to a rate-of-return or other rate-based proceeding) of providing interconnection or network elements . . . nondiscriminatory . . . and may include a reasonable profit." The FCC recognized that the appropriate depreciation rate to be included in a TELRIC analysis is a forward-looking, economic depreciation rate. Economic depreciation is defined by the FCC as the "periodic reduction in the book value of an asset that makes the book value equal to its economic or market value." FCC Interconnection Order at ¶703, footnote 1711.

57. We reaffirm our adoption of the most recently approved depreciation lives and salvage values established by the Commission.

58. As noted above in the procedural history for this docket, on July 22, 1998, the Presiding Officer at that time issued an order which denied Staff's request that Nevada Bell be directed to file a new cost of capital study. That decision was an interim ruling which denied the request as untimely and on the basis that no justification for consideration of a new rate of return had been shown. Information in this record, however, raised the issue of whether the default cost of capital is an accurate indicator of today's capital rates. Therefore, upon consideration of the full record developed in this case, the Commission believes that it should revisit this issue and order Nevada Bell to file, within three months of the date of issuance of this Order, a new cost of capital study.

F. Expense Factors

59. The Hatfield Model estimates some expenses based upon expense-to-investment ratios derived from the ILEC's ARMIS reports. For example, if historically there is five cents of maintenance expense for every dollar invested in buried cable, the Model assumes that prospectively the same ratio would hold in the future. When certain expenses are deemed more sensitive to the number of customers, expense factors take the form of ARMIS expense divided by ARMIS reported number of lines.

60. Commission Staff recommended some adjustments to the HAI default expense inputs.

61. We conclude that, based upon the evidence of record in this proceeding, Staff's adjustments to the HAI default expense inputs should be adopted.

G. Joint, Shared, and Common Costs

62. Joint, shared, and common costs are expenses that are not attributable to a particular service, nor to a family of products.

63. The FCC defines joint and common costs as follows:

> Certain types of costs arise from the production of multiple products or services. We use the term "joint costs" to refer to costs incurred when two or more outputs are produced in fixed proportion by the same production process (*i.e.*, when one product is produced, a second product is generated by the same production process at no additional cost). The term "common costs" refers to costs that are incurred in connection with the production of multiple products or services, and remain unchanged as the relative proportion of those products or services varies (*e.g.*, the salaries of corporate managers). Such costs may be common to all services provided by the firm or common to only a subset of those services or elements. If a cost is common with respect to a subset of services or elements, for example, a firm avoids that cost only by not providing each and every service or element in the subset. For the purpose of our discussion, we refer to joint and common costs as simply common costs unless the distinction is relevant in a particular context.

CC Dockets 96-325 and 96-98; CC Docket 95-185 (August 8, 1996), ¶676.

64. Shared costs are expenses that are common to a family of products but are not avoided if one of the products is eliminated. Common costs are shared costs where the family of products is the total operations of the firm.

65. The HAI model allocates common costs by applying a 10.4 percent fixed allocator to the directly attributable forward-looking costs.

66. The Commission finds that a factor of 10.4 percent should be added to the TELRIC loop estimate to account for costs that are not attributed to particular unbundled elements, but are nevertheless part of a proper TELRIC analysis.

COST OF SWITCHING

A. Cost Structure

67. The Hatfield Model computes switch investment on a per-line basis.

68. In defining the switch element, the FCC concluded: "Thus, when a requesting carrier purchases the unbundled local switching element, it obtains all switching features in a single element on a per-line basis." FCC Interconnection Order, ¶412. The FCC's definition of the switch element and that portion of its First Report and Order cited above remain in full force and effect. *Iowa Utilities Board v. FCC*, 120 F.3d 753 (8th Cir. 1997) (Eighth Circuit decision).

69. We do not rule out the possibility that in some future proceeding, a separate charge for vertical features could be established. For example, a party may be able to show through regression analysis that the investment per line, all else remaining equal, is higher at locations where a centrex-type service is provided. The analysis could provide useful insight into the question of the degree to which vertical services require more investment than ordinary voice services.

B. Cost Levels

70. The HAI model proposes that switching investment per line be estimated by analyzing four data points. The investment per line for the regional Bell operating companies (RBOCs), GTE, and the independent LECs was derived from the Northern Business Information (NBI) publication, *U.S., Central Office Equipment Market: 1995 Database*. A fourth value for large switches of 80,000 lines was developed from an unnamed industry source. The number of central office lines was obtained from ARMIS data.

71. We adopted Staff's fixed and per-line switching investment recommendations in

previous proceeding 96-9035 to be used as defaults in place of the HAI default inputs. Staff's recommendations incorporated the results of the Gabel Kennedy Study.

72. The Commission adopts Staff's proposed inputs. We find that the values are consistent with Staff's recommended values presented to the Commission in Dockets 97-5018 and 96-9035 in which we adopted these inputs. We have had no evidence presented to give us reason to change from our previous position.

73. The HAI model assigns 70 percent of the cost of switching to traffic and the remaining 30 percent to the port.

74. Staff recommended that 58 percent of the cost of switching be assigned to traffic.

75. We adopt Staff's input that assigns 58 percent of the cost of switching to traffic.

NONRECURRING COSTS

76. Nonrecurring costs historically are classified as costs incurred in initially establishing service for an individual customer. They are transaction related. Costs incurred to set up a customer's service typically include customer service expenses and, depending on the service, the cost of physically connecting a customer to the network. Today, in some cases, the establishment of service can be accomplished from a computer work station, without physical rearrangement of the facilities necessary to serve the customer. Nonrecurring costs are typically recovered, at least primarily, through nonrecurring charges, which the customer pays at the time that service is initiated.

77. We note that, even if transaction costs are captured by the HAI model, these costs should not be included in the cost estimates of unbundled network elements. Staff criticized the non-recurring charges proposed by Nevada Bell as excessive and not in compliance with a

previous ruling by the Commission. Staff's witness Ms. Dismukes testified that Nevada Bell failed to include charges for ordering with fully automated OSS. Also, Nevada Bell has provided non-recurring charges only for stand-alone offerings, when certain services, such as a visit by a technician to a customer's premises, can cover more than one other service. Nevada Bell failed to propose non-recurring charges for other than new installations. Its estimates for time needed to perform work were not accompanied by supporting documentation. We adopt the position that nonrecurring costs should be explicitly identified in a separate study.

78. At this time, the Commission should adopt Staff's recommended non-recurring charges. In addition, Nevada Bell should be ordered to submit new non-recurring charges for consideration by the Commission and any interested parties.

COMMISSION CONCLUSION

79. The Act requires that the price of unbundled elements be just and reasonable. In this proceeding, we have identified the recurring and nonrecurring cost of network elements. Consistent with the statutory requirement, these costs have been determined without engaging in a rate case. 47 U.S.C. § 252(d)(1)(A).

80. For the most important network element, the local loop, our cost determination is based upon an extensive review of the HAI model and the written and oral testimony of many expert witnesses. We have evaluated the input values for the model.

81. The parties have proposed a wide range of inputs for the cost model. Our Order reflects a careful review of all the testimony and exhibits. We believe that, through this process, we have succeeded in identifying inputs and obtaining TELRIC estimates that are consistent with the principles that were identified in the introductory section of this Order.

82. Appendix A provides an outline of the adjustments the Commission adopts in this proceeding.

83. Having discussed above in detail both the oral and documentary evidence concerning all material matters, and having stated findings and conclusions in each numbered paragraph, the Commission now augments those findings and conclusions with the following general statements on the evidence of record. Those portions of the preceding detailed findings and conclusions pertaining to the ultimate decisions of the Commission are hereby incorporated by this reference.

FINDINGS OF FACT

84. The Commission is an agency of the state of Nevada, vested by statute with authority to regulate rates, rules, regulations, practices, accounts, securities, and transfers of public service companies, including telecommunications companies.

85. Nevada Bell is engaged in the business of furnishing telecommunications service within the state of Nevada as a public service company.

86. The purpose of this proceeding is to establish rates for unbundled network elements and nonrecurring charges.

87. The costs established by this Order will serve as prices for unbundled network elements and nonrecurring charges.

88. The nonrecurring charges shall remain in effect until the Commission has rendered a decision on a new cost study to be filed by Nevada Bell.

89. Nevada Bell will file new studies for OSS and non-recurring charges with the Commission within six months from the date of this Order.

90. The HAI model is relatively open, although it uses data not in the public domain.

91. Incumbent local exchange companies may be entitled to some compensation for certain expenditures made to comply with the Telecommunications Act of 1996.

92. The Commission finds it is appropriate to deaverage costs for unbundled loops into three zones for the pricing of UNEs in this proceeding.

93. The Commission finds it is appropriate to combine the loop and NID for no additional charge.

94. The Commission finds it is appropriate that charges to combine other UNEs should be negotiated between the parties.

95. Based upon our findings, those charges proposed by Commission Staff for non-recurring charges are adopted on an interim basis.

CONCLUSIONS OF LAW

Having articulated the legal basis for its decision in the Discussion section, the Commission makes the following conclusions of law.

96. The Nevada Public Utilities Commission has jurisdiction over the subject matter of these proceedings and the parties.

97. An open or transparent model is in the public interest in that it allows a full exploration of the advantages and limitations of a model and allows the public to evaluate all of the information which is used to set prices.

98. The Commission has previously adopted the HAI model which meets our objectives that the model be open, reliable, and economically sound.

99. In future Commission proceedings, parties are required to document all

assumptions, inputs, and values consistent with this Order and to reflect forward-looking technology and the cost of such facilities.

100. The proper cost standard is total element long-run incremental cost, and the cost for unbundled network elements should be based upon the cost of the total demand for the elements.

101. The charges recommended by Commission Staff for unbundled network elements and non-recurring charges should be incorporated in Nevada Bell's interconnection agreements.

102. OSS transition costs should be considered.

103. The Commission believes this Order is a seminal event in the implementation of the Act. This Order accomplishes the Commission's goal of establishing unbundled network elements prices. These prices will apply to agreements approved by the Commission in various arbitrated, negotiated, and adopted agreements executed by Nevada Bell, and various new entrant competitive local exchange companies (CLECs), and to all such future agreements executed between Nevada Bell and CLECs authorized to provide local exchange service in the state of Nevada.

THEREFORE, based on the foregoing findings of fact and conclusions of law, it is hereby ORDERED that:

1. The Commission adopts Staff's inputs for distribution, feeder, switching and expenses as inputs to the HAI model.

2. The Commission adopts Nevada Bell's three rate zones proposal for establishing prices.

3. The Commission adopts the position that the loop and NID can be combined at no additional charge.

4. The Commission adopts the position that charges for combining other UNEs will be negotiated by the parties.

5. Nevada Bell's request for confidential treatment of material filed under seal in this docket is denied.

6. The Commission adopts Staff's recommended non-recurring charges.

7. The Commission orders Nevada Bell to file a new non-recurring charge study.

8. The Commission orders Nevada Bell to file a new OSS study using Nevada specific costs and to reflect charges developed for both fully automated and manual OSS. In addition, the study will reflect currently approved depreciation rates and salvage values, and a cost of capital of 11.25 percent.

9. Costs for unbundled network elements will be deaveraged into three zones in this proceeding.

10. The loop and NID will be combined at no additional charge.

11. The charge for combining other UNEs will be negotiated between the parties.

12. Nevada Bell is ordered to implement the charges adopted by the Commission in this proceeding.

13. Nevada Bell is ordered to file a new non-recurring charge study within six months of the date of this Order.

14. Nevada Bell shall file a new cost of capital study within three months of the date of issuance of this Order.

15. The Commission retains jurisdiction for the purpose of correcting any errors which may have occurred in the drafting or issuance of this Order.

By the Commission,

JUDY M. SHELDREW, Chairman and Presiding Officer

DONALD L. SODERBERG, Commissioner

Attest: JEANNE REYNOLDS, Commission Secretary

Dated: Carson City, Nevada

2/1/99

(SEAL)

PUBLIC UTILITIES COMMISSION OF NEVADA PUC

Ex. __

Public Utilities Commission of Nevada

Docket No. 98-6004

Nevada Bell

Unbundled Network Element Costs

DIRECT TESTIMONY OF

LARRY BLANK

1. Q. **PLEASE STATE YOUR NAME, BUSINESS ADDRESS, AND CURRENT POSITION.**

A. My name is Larry Blank. My business address is 1150 E. William Street, Carson Ci Nevada. I am currently employed as Manager of Regulatory Policy with the Regulatory Operations Staff ("Staff") of the Nevada Public Utilities Commission ("Commission").

2. Q. **PLEASE STATE YOUR EDUCATION AND PROFESSIONAL BACKGROUND AS IT IS RELEVANT TO YOUR TESTIMONY.**

A. I received a Ph.D. in Economics from The University of Tennessee, Knoxville, with fields of concentration in industrial organization and econometrics, which is the application of statistical methods on economic data. My applied work focuses on regulatory policy and economics, including industry restructuring and competitive entry. I have taught college classes in regulation and antitrust economics at The University of Tennessee and graduate-level public policy economics at The Ohio St University. Prior to accepting my current position, I was a research economist with the National Regulatory Research Institute (NRRI), established by the National Association of Regulatory Utility Commissioners (NARUC) at The Ohio State University. While at NRRI, I authored reports and papers on current issues of inter to NARUC and member commissions and provided direct consultation to state

commissions and their staffs.

My current responsibilities cover many aspects of restructuring and regulato policy in the electricity, natural gas, and telecommunications industries.

3. Q. **DOES ATTACHMENT LB-1 ACCURATELY DESCRIBE YOUR EDUCATIONAL AND PROFESSIONAL BACKGROUND?**

A. Yes, it does.

4. Q. **WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

A. In response to the filing made by Nevada Bell on June 1, 1998, I provide Staff's pol position with respect to unbundled network element ("UNE") costing as it relates tc UNE pricing. I am also co-sponsoring Staff's version of the HAI model including inputs and outputs. Scott Kennedy provides testimony on behalf of Staff on the development of switching cost inputs and outside plant cost inputs. The remaining inputs contained in Staff's filing are a combination of HAI model default inputs and inputs developed during the workshops and discussions in Docket No.s 96-9035 an 97-5018. In an attempt to reach some consensus on inputs in these earlier dockets, Staff worked closely with AT&T experts to better understand the operation of the HAI model and to evaluate the reasonableness of inputs and outputs.

In addition to Mr. Kennedy's testimony, Staff is filing testimony from anoth consultant, Kimberly Dismukes. Ms. Dismukes provides evaluation and analysis of OSS and nonrecurring cost studies sponsored by Nevada Bell.

5. Q. **DOES STAFF AGREE WITH NEVADA BELL'S GENERAL METHODOLOGY FOR COMPUTING PER UNIT OSS COSTS AS THESE COMPUTATIONS W LL AFFECT PRICING?**

A. No. Nevada Bell relies on an OSS cost study performed by Pacific Bell. Competiti local exchange carriers ("CLECs") purchasing UNEs in Nevada Bell's territory will able to utilize Pacific Bell's automated OSS as will CLECs in Pacific Bell's Califorr

territory. Under the assumptions made in the study, a CLEC desiring automated OS would purchase a port into the system and pay a fixed monthly fee. Pacific Bell has projected the total investment needed to make their new OSS system fully operation and relies on an estimate of competitive local exchange carrier ("CLEC") OSS port orders as the demand units over which to spread the OSS costs associated with this investment. If used as a basis for pricing, this cost-design proposal discriminates against new CLEC entrants in that the charges only apply when customers select a CLEC and do not apply when a customer selects the incumbent local exchange carri ("ILEC") for retail service. All customers are now part of the potentially competitiv local telephony market and stand to reap any benefits that result from the new automated system. Hence, these costs should be spread evenly across all customers.

6. Q. PLEASE EXPLAIN WHY OSS PRICING BASED ON NEVADA BELL'S COST PROPOSAL WOULD BE DISCRIMINATORY AND WHY ALL CUSTOMERS STAND TO GAIN FROM MORE EFFICIENT OSS?

A. ILECs are not required to establish a competitive retail affiliate. However, if they were required to do so, the retail affiliate would order and purchase UNEs from its wholesale affiliate under the same terms and conditions as a CLEC. Such an affiliat structure helps to ensure equal opportunities across all retail competitors. Given the vertically integrated structure of an ILEC under current policy, it is understandable why an ILEC may view its retail operations as being different from the CLECs attempting to compete at the retail level. The vertically integrated structure, howev should not be used as a reason to price discriminate or impose additional costs that disadvantage CLEC customers relative to ILEC customers. The fact that the ILEC retail operations may use different means to acquire the UNEs necessary for offerin bundled services is not a reason to impose disproportionate OSS cost recovery on CLECs and CLEC customers. The retail operations of the ILEC already have a cle

advantage in being able to "order" existing essential network elements "in-house" rather than having to place an order in the same fashion as a CLEC. To place a char on CLECs to use this unequal ordering system, further tilts the playing field in favor the ILEC.

All retail customers stand to gain from improvements made in the OSS utiliz by CLECs, including customers who elect to remain with the ILEC. Efficiency gain in OSS enhance the potential for competition. Increased competition, in turn, encourages the ILEC to improve its retail offerings to retain customers. These improvements, therefore, benefit all customers. Therefore, the start-up investment costs associated with OSS should be spread across all access lines and not just acro the UNEs ordered by CLECs.

Staff's recommendation to the Commission is to require the costing of OSS a per line, per month basis.

7. Q. **HAVE YOU REVIEWED NEVADA BELL'S PRICING PROPOSAL FOR UNBUNDLED LOOPS?**

A. Yes. Nevada Bell's witness, Rebecca Sparks, proposes up to three zones for the pricing of UNEs. The reason given for the three zones is:

> "Three zones represent a reasonable balance between reflection of geographic cost differences in the price structure and the administrative burden for supplier and customer that results from the administrative complexity associated with a greater number of zones." (Sparks Testimony, p.13)

Nevada Bell's pricing proposal, however, appears to be inconsistent with the Commission's Order of February 5, 1998, Docket No. 96-9035: "Therefore, the Commission finds that ILECs shall deaverage rates to the wire center level in their cost studies." ¶36

8. Q. WHAT IS STAFF'S VIEW ON THE GEOGRAPHIC UNE RATE DEAVERAGING PROPOSAL BY NEVADA BELL?

A. From both a policy and practical perspective, Staff believes the Nevada Bell's rate zone proposal is generally reasonable. Given the fact that the Commission has decide not to file a universal service cost study with the FCC, Staff is not particularly troubl by the pricing proposal. It appears that the Commission's decision to order wire center level UNE pricing was, in part, predicated on the desire to coordinate UNE pricing with the federal universal service fund ("USF") costing. In Docket No. 97-5018, however, the Commission decided not to file a USF cost study with the FCC. Given this decision, it is no longer possible to coordinate the state-jurisdictional UNI prices with the USF costs to be calculated by the FCC. Therefore, Staff recommend that the Commission focus on adopting forward-looking, cost-based UNE prices tha best satisfy Nevada interests. When the FCC adopts USF costs for Nevada or if the Commission submits a USF cost study with the FCC in the future, the UNE rate structure may need to be revisited.

9. Q. WHAT IS STAFF'S POSITION WITH RESPECT TO THE COST OF CAPITAL?

A. The Commission ordered the use of the FCC's 11.25% rate of return for UNE prici Similar to the Commission's decision to deaverage UNE rates to the wire center lev the Commission's decision on rate of return appears, in large part, to be predicated the desire to coordinate UNE pricing with the federal universal service fund ("USF" costing. In Docket No. 97-5018, however, the Commission decided not to file a US cost study with the FCC. Given this decision, it is no longer possible to coordinate state-jurisdictional UNE prices with the USF costs to be calculated by the FCC.

Staff recommends that the Commission focus on adopting forward-looking, cost-based UNE prices that best satisfy Nevada interests. To pursue this goal, the

Commission should require the ILECs to file a cost of capital study in the near futur Staff is filing a legal motion to this effect. Unlike the rate structure proposal of Nevada Bell, adoption of an alternative cost of capital will require a fresh look at technical analyses. In contrast, Staff believes the rate structure proposal of Nevada Bell can be evaluated by the Commission from the record in the instant docket.

For comparison purposes only, Staff has recalculated its total loop costs bas on a rate of return of 9.29%. In Docket No. 96-9035 the UCA proposed a weighte cost of capital of 9.29% (Commission Order, February 5, 1998, ¶60). The compari between loop costs at 11.25% and loop costs at 9.29% is found in Attachment LB-: As revealed in that comparison, a change in cost of capital, all else equal, can have a significant impact on UNE costs.

10. Q. ARE THERE ANY PROBLEMS WITH THE ECONOMIC LIVES AND SALVAGE VALUES USED BY NEVADA BELL?

A. There appears to be an inconsistency between the depreciation lives and salvage val used by Nevada Bell in the HAI model and those ordered by the Commission on February 5, 1998. This came to my attention only a few days before filing written testimony. Staff will work with Nevada Bell to resolve this issue prior to the hearir

11. Q. DOES NEVADA BELL PROPOSE SUB-LOOP RATE UNBUNDLING?

A. Sub-loop rate unbundling does not appear to be part of Nevada Bell's pricing proposal. However, unbundled costs for sub-loop components can be obtained fro the HAI model output and, therefore, can be extracted from the Nevada Bell result: The Commission has ordered sub-loop unbundling in its Order on February 5, 1998 Docket No. 96-9035, ¶90. Staff supports the Commission's decision to adopt sub- loop element unbundling and, therefore, sub-loop rate elements should be part of a final UNE prices.

12. Q. WHERE ARE STAFF'S UNBUNDLED LOOP COSTS REPORTED?

A. These costs are found in Attachment LB-4 to this testimony and also in the HAI outputs in Attachment LB-3.

13. **Q. IN YOUR OPINION, DO THE UNE COSTS COMPUTED BY STAFF PROVIDE A BASIS FOR THE COMMISSION TO ESTABLISH UNE PRICES?**

A. Yes. The costs are were developed based on forward-looking assumptions. Prices based on Staff's UNE costs will, in my opinion, satisfy the cost-based pricing manda in 47 U.S.C. 252 (d).

14. **Q. DOES THIS COMPLETE YOUR TESTIMONY?**

A. Yes.

EDUCATIONAL AND PROFESSIONAL BACKGROUND OF LARRY BLANK

Education

Ph.D. in Economics, The University of Tennessee, Knoxville, August 1994.

Dissertation: "Political Economy and Public-Utility Inefficiency."

B.S. in Economics/Mathematics, Bemidji State University, Minnesota, May 1989.

Fields of Concentration

Industrial Organization & Public Policy
Econometrics
Finance (minor)

Professional Experience

Manager of Regulatory Policy, Regulatory Operations Staff, Public Utilities Commission of Nevada, October 1997 - Present.

Supervising Economist, Regulatory Operations Staff, Public Service Commission of Nevada, March 1996 - October 1997.

Research Economist, National Regulatory Research Institute, The Ohio State University, September 1994 - March 1996.

Lecturer, School of Public Policy and Management, The Ohio State University (taught Graduate Public Finance), Winter 1996.

Graduate Teaching Associate, Department of Economics, The University of Tennessee, Knoxville (taught Antitrust and Regulatory Economics), June 1992 - August 1992; July 1993 - August 1994.

Graduate Research Associate, Center for Business and Economic Research, The University of Tennessee, Knoxville, August 1989 - May 1992.

Published Papers and Reports

"Dominant Firm Pricing with Competitive Entry and Regulation: The Case of IntraLATA Toll," (with David Kaserman and John Mayo), *Journal of Regulatory Economics*, forthcoming 1998.

"Open Entry and Local Telephone Rates: The Economics of IntraLATA Competition," (with David Kaserman, John Mayo, and Simran Kahai), *Review of Industrial Organization*, forthcoming 1998.

"Concavity Assumptions in Regulatory Models and the Capital Waste Controversy," *Journal of Regulatory Economics*, Vol. 9, 1996, pp. 95-100.

"Key Antitrust Pricing Issues for Regulated Industries with Emerging Competition," *NRRI Quarterly Bulletin*, Vol. 17, No. 2, 1996, pp. 279-298.

Telecommunications Service Quality (with V.W. Davis, D. Landsbergen, R.W. Lawton, N. Zearfoss, and J. Hoag), National Regulatory Research Institute, The Ohio State University, Columbus, March 1996.

"Telephone Vouchers: Experiences in Other Markets," *NRRI Quarterly Bulletin*, Vol. 16, No. 4, 1995, pp. 537-547.

Telecommunication Infrastructure Investments and State Regulatory Reform: A Preliminary Look at the Data (with Vivian Davis and Catherine Reed), The National Regulatory Research Institute, The Ohio State University, Columbus, December 1994.

Considerations in Preparing and Reviewing Socioeconomic Impact Assessments for Low-Level Waste Disposal Facilities (with Mary English, Matthew Murray, and Zoe Hoyle), for the U.S. Department of Energy. National Low-Level Waste Management Program, EG&G Idaho, Inc., Idaho Falls, Idaho: August 1992.

Economic Effects of The University of Tennessee, Knoxville, Athletic Department, (principal investigator with William Fox and Matthew Murray), for The University of Tennessee, Knoxville, Athletic Department. Center for Business and Economic Research, The University of Tennessee, October 1991. [Also published in *Survey of Business* 28 (Fall 1992): 20-23].

Contributing Author to ***An Economic Report to the Governor of the State of Tennessee, on the State's Economic Outlook***, Center for Business and Economic Research, The University of Tennessee, February 1991.

Economic Impact of Chem-Nuclear Systems, Inc. on Barnwell County, South Carolina (with Matthew Murray), for the U.S. Department of Energy. Energy, Environment and Resources Center, The University of Tennessee, Knoxville, November 1990.

Current Research

"Regulatory Choice: Constraints and Inefficiency"

"Regulating Market Penetration: A Higher-Powered Incentive Scheme for Local Telephone Companies."

"Access Pricing and Asymmetric Capacities in Local Telecommunication Markets," (with David Mandy).

Presentations and Conference Participation

"Regulatory Choice: Constraints and Inefficiency," ***The 73rd Annual Western Economic Association Conference***, June 29, 1998.

Discussant, ***The 25th Annual Telecommunications Policy Research Conference (TPRC)***, Alexandria, VA, September 27-29, 1997.

"Electricity Restructuring Issues," two presentations before the ***Nevada State Senate Committee on Commerce and Labor***, February 1997.

"Regulating Market Penetration: A Higher-Powered Incentive Scheme for Local Exchange Companies," ***The Tenth NARUC Biennial Regulatory Information Conference***, Hosted by the National Regulatory Research Institute at The Ohio State University, Columbus, September 11, 1996.

"Regulating Market Penetration: A Higher-Powered Incentive Scheme for Local Telephone Companies," ***The Advanced Workshop in Regulation and Public Utility Economics***, Hosted by the Center for Research in Regulated Industries at Rutgers University, Lake George, NY, May 30, 1996.

"Balancing Seemingly Conflicting Goals through a Minimum Subscribership Plan: Economic Efficiency and the Risks Borne by Regulators," ***The 27th Annual Conference of the Institute of Public Utilities***, Williamsburg, VA, December 12, 1995.

"The Minimum Subscribership Plan (MSP): Quality, Prices, and Current Policy," ***The 23rd Annual Telecommunications Policy Research Conference (TPRC)***, Solomons, MD, October 2, 1995.

"A Positive Theory of Price-Cap and Rate-of-Return Regulation: Substitutes or Complements?", ***Southern Economic Association Meetings***, Orlando, FL, November 22, 1994.

Journal Referee

The American Economic Review, April 1995.

Prior Participation in Utility Cases (partial list)

***Telecommunications*:**

Docket Nos. 96-3002 and 96-3003, Nevada Bell's Entry into a Plan of Alternative Regulation (testimony).

Docket No. 96-9035, Investigation into Procedures and Methodologies to Develop Costs for Bundled or Unbundled Telephone Services (comments, testimony and cost analysis).

Docket No. 96-4041, Nevada Bell Petition on Confidential Nature of Telecommunications Cost Studies (testimony filed).

Docket No. 97-5018, Investigation into the impact of the Telecommunications Act of 1996 on Universal Service in Nevada (comments).

Docket No. 97-5027, Central Telephone Company-Nevada, tariff filing requesting an increase in directory assistance rates (testimony and cost analysis).

Docket No. 96-8035, GTE, Depreciation Filing (testimony).

Docket No. 97-11017, Virtual Hipster Corp., Petition to terminate rural exemption of Churchill County Telephone Company (testimony).

Review of Interconnection and Resale Agreements between Incumbent Local Exchange Carriers and Competitors in Nevada.

Electricity:

Docket No. 95-9022, Nevada Electric Restructuring Investigation (several extensive comments).

Docket No. 96-6013 and 96-6014, Sierra Pacific Power Company tariff filing to allow negotiated

contracts (testimony).

Docket No. 96-7020, Nevada Power Company Deferred Energy Case (testimony).

Docket No. 97-6008, Nevada Power Company's Resource Plan (evaluation of load forecasting).

Docket No. 97-8001, Investigation of issues to be considered as a result of restructuring of electric industry (comments and testimony).

Docket Nos. 97-11018 and 97-11028, Proposed Unbundling Methodologies of Sierra Pacific Power Co. and Nevada Power Co. (testimonies).

Docket No. 97-10004, Nevada Power Company's Green Power Tariff (testimony).

Natural Gas:

Docket No. 97-8002, Investigation into alternative form of regulation for natural gas local distribution companies and alternative sellers of natural gas, and related matters (comments and testimony).

Professional Membership

American Economic Association

Western Economic Association